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## **A NOVEL PLATFORM FOR HIGH THROUGHPUT CELL LINE SCREENING & DEVELOPMENT**

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The provision of stably expressing, high-yield mammalian cell lines is a key step in bioprocess development. Recent progress in clone screening automation, and the increased use of mini-bioreactors, such as ambr®, have resulted in higher experimental throughput and a significant increase in data that needs to be handled and interpreted.

Co-developed in close collaboration with leading biopharmaceutical companies, we have implemented a dedicated cell line development platform for fully automating the clone line selection and assessment process to increase process efficiency and quality. The new platform supports the entire cell line development workflow including seeding, selection, incubation, passaging, analyzing, and cryo-conservation of cells. The system tracks the full history of all clones - from initial transfection all the way to their evaluation in bioreactor runs - and combines this information with product quality and analytics data. As a fully integrated platform, it directly integrates with all instruments, such as pipetting robots, colony pickers, and bioanalyzers. The platform can be applied to both antibodies (IgGs, novel formats) as well as therapeutic proteins (e.g. engineered FVIII variants, fusion proteins).

Here, we present concrete use cases to demonstrate how the platform streamlines the generation and assessment of mammalian production cell lines, shortening typical cell line development campaigns and significantly reducing costs.